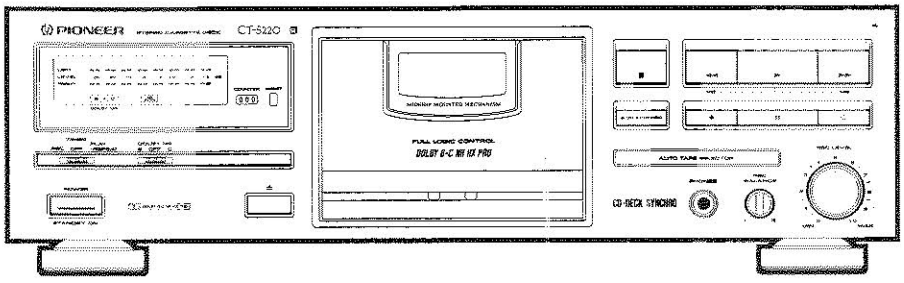
Operating Instructions

STEREO CASSETTE DECK



● This illustration shows CT-S220 U.K. model

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your unit properly. After you have finished reading the instructions, keep the manual in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

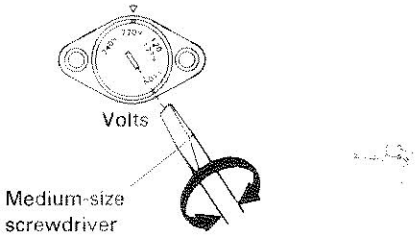
LINE VOLTAGE SELECTOR SWITCH

Only multivoltage models are provided with this switch. U.S., Canadian, European, U.K., and Australian models are not provided with this switch.

Mains voltages in Saudi Arabia are 127V and 220V only. Never use this model with 110V setting in Saudi Arabia.

The line voltage selector switch is on the rear panel. Before your model is shipped from the factory, this switch is set to the power requirements of the destination. Check that it is set properly before plugging the power cord into the AC wall socket. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selector, and adjust so that the tip of the arrow points to the voltage value of your area.



"This product complies with the Radio Interference requirements of the EC (European Community) Directive 87/308/EEC."

CONTENTS

PRECAUTIONS ON INSTALLATION 2
HOW TO HANDLE CASSETTE TAPES 3
CONNECTIONS 4
FRONT PANEL FACILITIES 5
PLAYBACK 7
MUSIC SEARCH 7
RECORDING 8
TIMER RECORDING AND PLAYBACK 9
DOLBY NR & HX PRO 10
MAINTENANCE 10
TROUBLESHOOTING 11
SPECIFICATIONS 12

PIONEER®
The Art of Entertainment

IMPORTANT 1

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

The wires in this mains lead are coloured in accordance with the following code:

blue neutral
brown live

If the plug provided is unsuitable for your socket outlets, the plug must be cut off and a suitable plug fitted.
The cut-off plug should be disposed of and must not be inserted into any 13 amp socket as this can result in electric shock. The plug or adaptor or the distribution panel should be provided with 13 amp fuse. As the colours of the wires in the mains lead of this appliance may not correspond with coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal of a three pin plug.

NOTE
After replacing or changing a fuse, the fuse cover in the plug must be replaced with a fuse cover which corresponds to the colour of the insert in the base of the plug or the word that is embossed on the base of the plug, and the appliance must not be used without a fuse cover. If lost, replacement fuse covers can be obtained from your dealer.

This appliance is rated at 13 amps.
Only 13 amp fuses approved to B.S. 1362 A.S.T.A. should be used.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

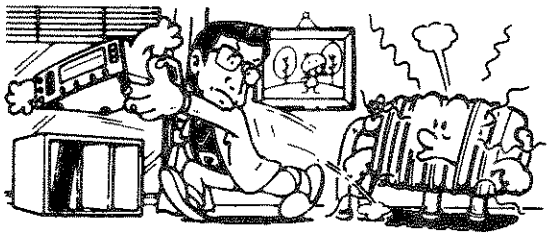
—Consult the dealer or an experienced radio/TV technician for help.

Information to User
Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

PRECAUTIONS ON INSTALLATION

HEAT

Do not place the unit near a heating device, on top of the amplifier or in a location where it is exposed to direct sunlight, as excessive heat may damage the finish and internal parts. Also, do not place a cloth on top of the unit or block the provided ventilation openings in any other way. Always make sure that the installation location provides sufficient ventilation to prevent overheating.



HUMIDITY, CONTAMINATION

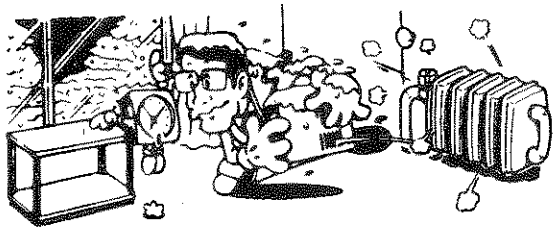
Do not install the unit in an excessively humid or dusty location, as this may cause malfunctions and breakdowns. Also, avoid placing the unit next to kitchen counters or other locations where it is subjected to oily fumes.

NOISE INTERFERENCE

When the unit is placed directly on top of the amplifier it may pick up humming or other noise during recording. A turned-on TV set in close vicinity may also cause noise.

CONDENSATION

When the unit is moved from a cold to a warm environment, or when the room temperature rises drastically, condensation forms on parts of the tape transport mechanism, causing malfunctions when the tape deck is operated immediately. To avoid this, allow the tape deck to acclimate to the new temperature by waiting about one hour before operating the unit.



HOW TO HANDLE CASSETTE TAPES

CHECK CASSETTE BEFORE USE

Bear in mind the following points before loading cassette tapes.

Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is projecting outside the cassette shell or if it is loose, it may not enter between the capstan and pinch roller. This will prevent the tape from being supplied or damage the tape itself.

In cases like these, insert a pencil into the reel hole and take up the slack (Fig. A).

Some cassette tapes come with a plastic or thick paper stopper which prevents tape slack. Remove this stopper when loading the tape and replace it after using the cassette.

Are the accidental erasure prevention tabs intact?

A cassette is provided with these tabs so that important recordings will not be erased accidentally.

When the tab (Fig. B) on the cassette shell is broken off with the tip of a screwdriver, it will not be possible to activate the recording function by pressing the recording (●) button, so valuable recordings will not be erased in error.

To make a new recording with a cassette on which the tabs have been broken off, simply stick pieces of adhesive tape over the tab areas, as shown in Fig. C.

NOTE:

The accidental erasure prevention tabs are located at the top left on both sides A and B (1 and 2), so that material on each side can be prevented from being erased in error.

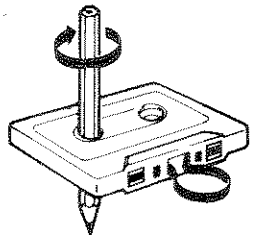


Fig. A

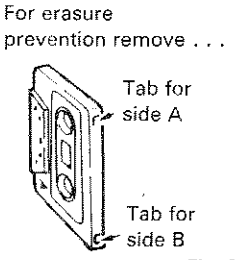


Fig. B

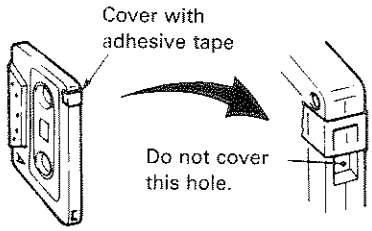


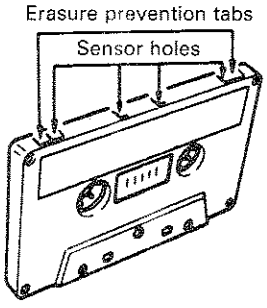
Fig. C

AUTOMATIC TAPE SELECTOR FUNCTION

This unit is equipped with an automatic tape selector function which utilizes the sensor holes on the tape cassette to determine the type of tape being used, in order to set the deck to match the tape recording bias and equalization.

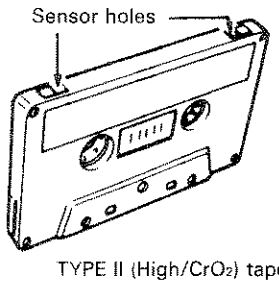
REGARDING THE TAPE TYPE SENSOR HOLES

- Do not use TYPE III (FeCr) tapes with this unit.
- When using TYPE IV (Metal) or TYPE II (High/CrO_2) tapes, be careful not to block the sensor holes with the tapes (Fig. D, Fig. E). If the holes are blocked, the automatic tape selector mechanism will not operate correctly.



TYPE IV (Metal) tape

Fig. D



TYPE II (High/CrO_2) tape

Fig. E

TIPS ON USING CASSETTE TAPES

- Leader tape (which does not allow sound to be recorded on it) is provided at the beginning of a cassette tape. Start recording after allowing the tape to run for about 5 seconds so that the leader tape clears the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case so that dust and dirt do not adhere to the tape after use, and so that the tape is prevented from becoming slack. Choose a location which is not exposed to the effects of magnetism, dust, dirt and oil for storing the tapes.

- **Because C-120 tapes are quite thin, they easily jam in the pinch roller and capstan, and they are susceptible to other trouble such as irregular winding. Try not to use them with this unit.**

CONNECTIONS

CONNECTING THE CASSETTE DECK TO AN AMPLIFIER

- Read through the operating instructions of the stereo components which you intend to connect to this unit.
- Turn on the power only after all the connections are completed.
- The top jacks are for the left (L) channel the bottom jacks are for the right (R) channel.
- Make sure that the plugs are inserted securely. Improper connection may generate noise.

CD · DECK SYNCHRO jack (CT-S220 only)

- CD · DECK SYNCHRO recording can be carried out when this unit is connected to a Pioneer CD player equipped with a CD · DECK SYNCHRO jack.

Connection

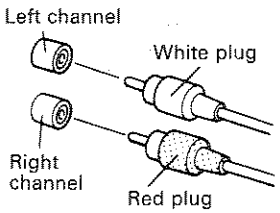
Connect the CD · DECK SYNCHRO jack of this unit to the CD · DECK SYNCHRO jack of the CD player using the supplied CD · DECK SYNCHRO control cord.

NOTES:

- *Keep the input and output jacks connected between the amplifier and this unit, otherwise, CD · DECK SYNCHRO recording cannot be carried out.*
- *Even when the CD player is connected to the amplifier with an optical fiber cable, connect the CD player to the amplifier or this unit with the input and output cords with pin plug.*

Connecting the input/output cords

Connect the plugs properly.

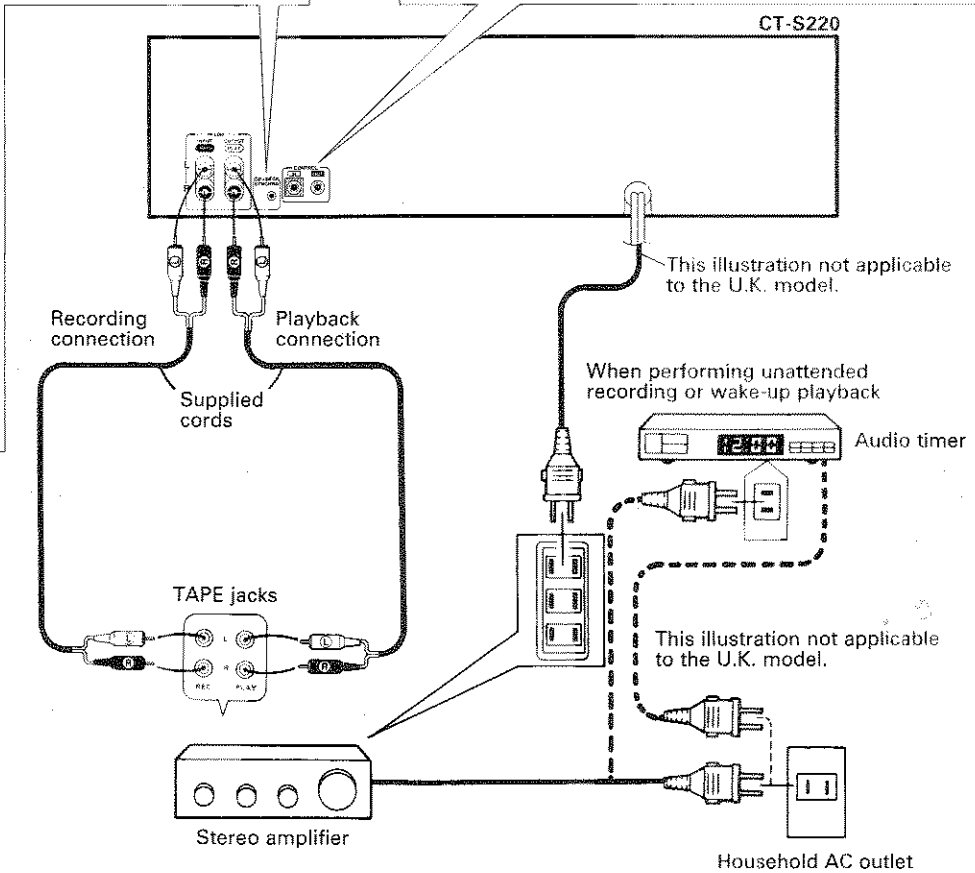


CONTROL IN jack (CT-S220 U.K. model only)

Connect this jack to the CONTROL OUT jack of a component equipped with the Pioneer System Remote Control (bearing the SR mark) using a supplied System remote control cord, and you will be able to operate the component using the system remote control.

CONTROL OUT jack (CT-S220 U.K. model only)

Intermediary output of remote control signals from the above input jack. Connect it to the CONTROL IN jack of another component compatible with the Pioneer System Remote Control.



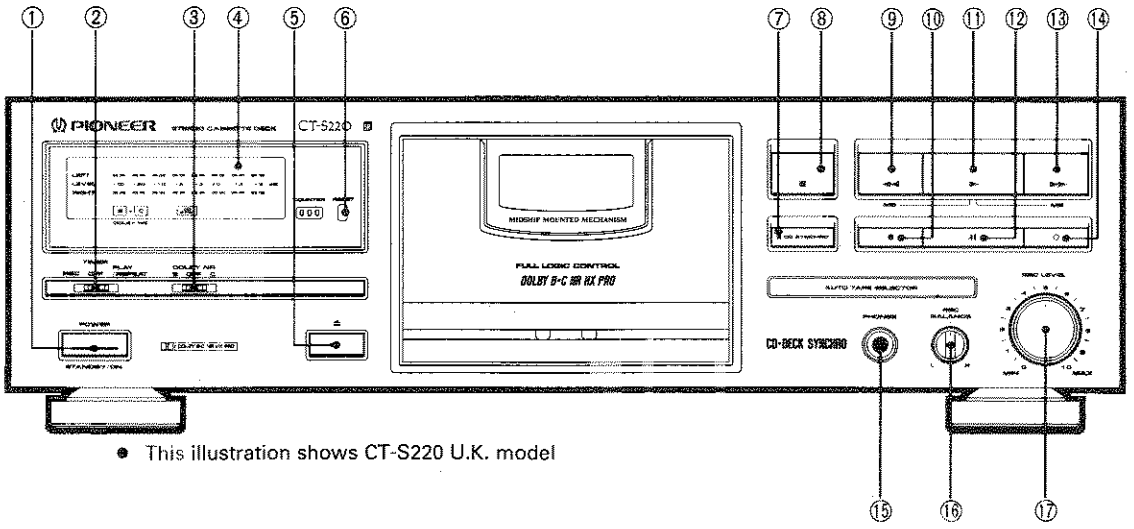
Connection to an audio timer

For details on the connection to an audio timer, refer to the instruction manual of the audio timer.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed in such a way that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord regulary. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

FRONT PANEL FACILITIES



• This illustration shows CT-S220 U.K. model

① POWER STANDBY/ON switch

THE POWER SWITCH IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN STANDBY POSITION.

② TIMER mode selector

OFF:
Normally, be sure to leave the switch in this position.
REC:
For timer recording (see page 9).
PLAY/REPEAT:
For timer playback or for repeat playback (see page 7 or 9).

- Recording or playback may suddenly start when turning the power on with this switch in the REC or PLAY/REPEAT position.

③ DOLBY* NR switch (see page 10)

Set this switch to ON, B-TYPE or C-TYPE (CT-S220 only) for recording with the built-in Dolby Noise Reduction Systems and for playback of tapes which have been recorded using the Dolby Noise Reduction Systems.
For other tapes, set the left DOLBY NR switch to OFF.

*

- *Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.*
- *"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.*

*** For CT-S220 U.K. model***

- *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- *"DOLBY", the double-D symbol ⧈ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.*

④ Function display

⑤ Eject button (≙)

Press to open the cassette door after you have pressed the stop button (■) and the tape has stopped.

⑥ Tape COUNTER RESET button

Resets the tape counter reading to "000".

⑦ CD SYNCHRO recording button (CT-S220 only)

⑦′ MS MONITOR button (CT-S120 only)

Press to monitor the sound during music search.

⑧ Stop button (■)

To stop all operations.

⑨ Rewind button (◀◀)

To rewind the tape in the direction of the arrows.
When this button is pressed once during playback of a selection, the same selection will be played again. If pressed in the blank between two selections, the first selection before the current tape position will be played. The unit will skip one selection in reverse direction for each time the ◀◀ button is pressed (see page 7).

⑩ Recording button (●)

When the recording (●) button is pressed, the unit is set to recording standby mode.
Press the pause (❚❚) button or playback (▶) button when ready to record.
The unit will not enter the recording standby mode if a cassette with the erasure prevention tabs removed is loaded.

⑪ Playback button (▶)

To start playback.

⑫ Pause button (❚❚)

To stop tape transport momentarily during recording or playback. Press the button again to resume operation. This can also be done by pressing the playback (▶) button. This button does not work during fast-forward and rewind.

⑬ Fast forward button (▶▶)

To fast-forward the tape in the direction of the arrows.
When pressed during playback, the unit will skip one selection in forward direction for each time the ▶▶ button is pressed (see page 7).

⑭ Recording mute button (○)

Press this button during recording to create a blank portion of approx. 4 seconds on the tape. The unit will then enter the recording standby mode.

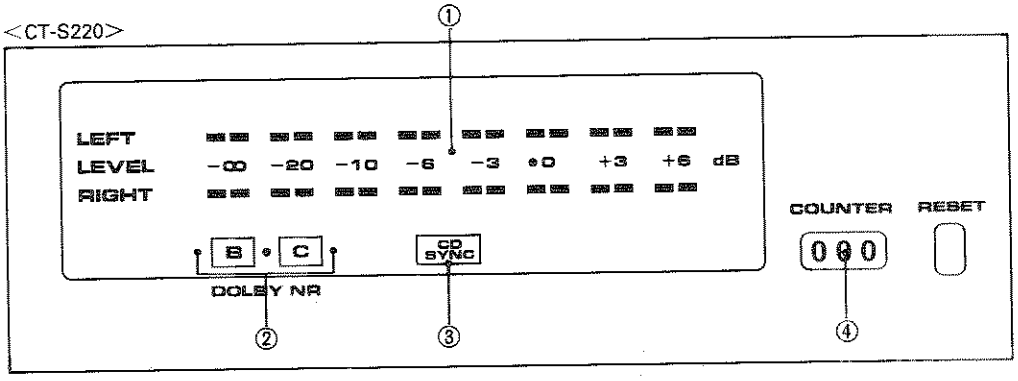
⑮ PHONES jack (CT-S220 only)

⑯ REC BALANCE control (CT-S220 only)

Balancing the recording level between left (L) and right (R) channels (see page 8).

⑰ REC LEVEL control

FUNCTION DISPLAY



① LEVEL meter

LEFT: Left channel.
RIGHT: Right channel.

NOTE:
The • mark on the meter scale indicates the reference lever for the DOLBY NR System.

② DOLBY B/C NR indicator (DOLBY B NR indicator for CT-S120)

Indicates the selected Dolby Noise Reduction Systems, B-type or C-type (CT-S220 only).

③ CD SYNC indicator (CT-S220 only)

Lights when synchro recording from a CD player is being carried out.

④ Tape COUNTER

PLAYBACK

1. **Press the POWER switch ① to ON.**
2. **Press the eject (≙) button ⑤, and insert a prerecorded tape.**
3. **Set the DOLBY NR switch ③ when playing back a tape which has been recorded using the DOLBY NR System. (For details, refer to DOLBY NR switch on pages 5, 10.)**
4. **Press the playback (▶) button ⑪.**
5. **Adjust the VOLUME control on the stereo amplifier.**
6. **Press the stop (■) button ⑧ to stop the tape playback.**

REPEAT PLAYBACK

1. **Insert a cassette to be played back repeatedly.**
2. **Set the TIMER mode selector ② to PLAY/REPEAT position.**
3. **Set the DOLBY NR switch ③ when playing back a tape which has been recorded using the DOLBY NR System. (For details, refer to DOLBY NR switch on pages 5, 10.)**
4. **Press the playback (▶) button ⑪.**
   One side of the cassette is repeatedly played back 16 times. When any of the tape transport mode buttons ⑨ to ⑭ is pressed while in playback mode, the repeat playback count will be reset and restart from the beginning.

NOTE:
When not performing repeat operation, set the TIMER mode selector ② to OFF position. If the selector is left in the PLAY/REPEAT position, playback will automatically start when the unit is turned on.

MUSIC SEARCH

Music search is a function which detects the unrecorded blanks between the selections and finds the start of a selection while the tape is being fast forwarded or rewound.

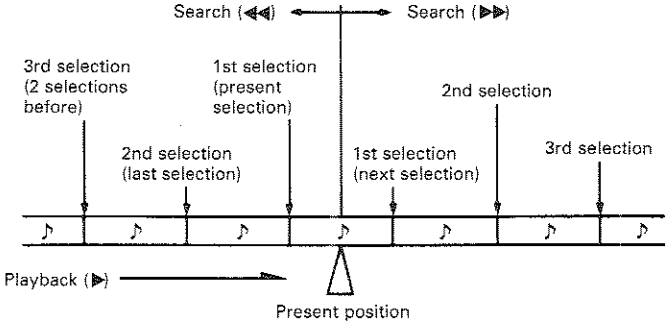
1. **Press the playback (▶) button ⑪.**
2. **Press the fast forward (▶▶) button ⑬ to listen to the selection following the present selection. To listen to the present selection again, press the rewind (◀◀) button ⑨.**
3. **When the unrecorded blank between the selections is detected, the unit is set to the playback mode.**
   When pressing the ◀◀ or ▶▶ button several times, the unit will skip the corresponding number of selections.
   It can find a selection located up to 15 selections from starting point.
   The music search operation is cancelled when the end of the tape is reached.

<CT-S120 only>
Sound monitoring during fast forward and rewind

Hold down the MS MONITOR button ⑦′ during fast forward and rewind. While the MS MONITOR button ⑦′ is pressed, playback sound can be monitored.

NOTE:
The music search function may not work properly with the following types of tapes. This does not, however, mean that there is something wrong with the unit.

- *Tapes which do not have unrecorded blanks lasting about 4 seconds or more between the selections.*
- *Tapes with classical music recorded, for instance, where pianissimo sections continue for many seconds, and tapes where, in a selection, the sound is interrupted for several seconds.*
- *Tapes recorded at a low level.*
- *Tapes with conversations where the recording of the voice is intermittent.*
- *Tapes where a high level of noise or humming has been recorded between selections.*



RECORDING

1. **Press the POWER switch ① to ON.**

2. **Press the eject (⏏) button ⑤, and load the cassette tape to be recorded. Check that the tape is wound onto the left reel.**

3. **Set the DOLBY NR switch ③ when recording a tape using the DOLBY NR System.**

4. **Operate the program source (tuner, compact disc, etc.).**

5. **Press the recording (●) button ⑩ to set the unit to the recording standby mode.**
   If a tape with its erasure prevention tabs removed is loaded, the unit cannot be set to recording standby.

6. **Adjust the recording level. (For details, refer to SETTING THE RECORDING LEVEL.)**

7. **Press the pause (▮▮) button ⑫ to start recording.**

8. **Press the stop (■) button ⑧ to stop recording.**
   Press the pause button (▮▮) to temporarily interrupt recording. To restart recording, press the pause button (▮▮) again or the playback button (▶).

SETTING THE RECORDING LEVEL

When adjusting the recording level, observe the reading on the level meter and adjust REC LEVEL control ⑰ appropriately. When turned clockwise, the recording level is increased and the level meter reading increases accordingly. When turned counterclockwise, the level is reduced. If the recording level is too high, the distortion in the recording increases; whereas if the level is too low, tape noise increases and the sound volume is low.

Using TYPE I normal tapes or TYPE II chrome tapes (High/CrO_2)

Adjust the controls so that "0 dB" lights up from time to time with peak input signals.

Using TYPE IV metal tapes

Adjust the controls so that "+3 dB" lights up from time to time with peak input signals.

NOTE:
The ● mark on the meter scale indicates the reference level for the DOLBY NR System.

[Balancing the recording level between left (L) and right (R) channels] (CT-S220 only)

Due to the source to be recorded or the equipment used for playback, the sound volume balance between left and right may be shifted to one side. In this case perform fine adjustment using REC BALANCE control ⑱.
Turning the control clockwise will lower the left channel level, and turning it counterclockwise will lower the level of the right channel.

RECORDING MUTE

[Inserting blank spaces between selections]

When the recording mute (O) button ⑭ is pressed during recording, a blank space is created on the tape for as long as the switch is kept pressed.

- Use the switch when recording an FM broadcast, for instance, to cut out unwanted commercials and narration, while simultaneously inserting breaks between the individual programs.
- Use the switch to create the blanks of 4 seconds or more required by the MS (Music Search) function.

1. **Start the recording.**

2. **Once the program has come to an end, press the recording mute (O) button ⑭. The tape still continues to travel but no signals are recorded on the tape.**
   After automatically creating a blank of 4 seconds, the unit enters the recording standby mode. If the recording mute (O) button ⑭ is pressed continuously for more than 4 seconds, no signals will be recorded while the button is held depressed. The unit enters the recording standby mode when the button is released. Press the pause (▮▮) button ⑫ or the playback (▶) button ⑪ to continue recording.

CD · DECK SYNCHRO RECORDING (CT-S220 only)

If the CD player has a program function to determine the order of playback, program the CD player before beginning this operation.

1. **Load a compact disc in the CD player.**
2. **Load the cassette for recording.**
   - Rewind the tape to the desired starting position.
3. **Set the DOLBY NR switch ③.**
4. **Press the play button of the CD player.**
5. **Adjust the recording level. (For details, refer to SETTING THE RECORDING LEVEL)**
6. **Press the stop (■) button ⑧ of both the cassette deck and the CD player.**
   - Unless both this deck and the CD player are in stop mode, synchro recording cannot be performed.
7. **Press the CD SYNCHRO button ⑦.**
   - The cassette deck begins recording, and the CD player begins playback.

When the compact disc finishes playing:

The CD player enters stop mode and the cassette deck enters recording standby mode. Change the disc and press the play button of the CD player to resume recording. If the CD player does not resume play within one minute, the cassette deck enters stop mode.

When the CD player changes discs (twin tray or multi-play disc CD players):

The cassette deck enters recording standby mode, and resumes recording when the CD player begins playing the next disc. A four-second or more blank space is automatically created between tracks.

When the end of the tape is reached while the CD player is still playing:

The CD player returns to the beginning of the currentlyplaying selection and then enters the pause mode. To resume recording, turn the tape over or load another tape. Synchro recording can be resumed by pressing the CD SYNCHRO button ⑦ again. (The CD SYNCHRO button ⑦ should be pressed within 1 minute. If more than 1 minute elapses, the CD player will enter stop mode.)

TIMER RECORDING AND PLAYBACK

RECORDING AND PLAYBACK USING AN AUDIO TIMER

Procedures may differ somewhat depending on the audio timer used. Be sure to read the operating instructions for the timer closely in conjunction with the instructions given here.

[UNATTENDED RECORDING]

1. **Set the power switches of the components to ON and turn down the volume control on the stereo amplifier.**
2. **Press the eject (≙) button ⑤, and load the cassette tape to be recorded.**
3. **Set the DOLBY NR switch ③ in accordance with the desired recording method and the type of tape being used.**
4. **Tune in the station whose program is to be recorded.**
5. **Press the recording (●) button ⑩.**
6. **Adjust the recording level with the REC LEVEL control ⑰.**
7. **Set the time on the audio timer so that the power comes on at the desired time. With this operation the power to the connected audio components is turned off.**
8. **Set the TIMER mode selector ② to REC.**

[WAKE-UP PLAYBACK]

1. **Set the power switches of the components to ON.**
2. **Load the tape which is to be played back.**
3. **Set the DOLBY NR switch ③.**
4. **Press the playback (▶) button ⑪ and set the volume control on the stereo amplifier to the level desired for timer playback.**
5. **Rewind the tape to the position where playback is to start.**
6. **Set the time on the audio timer so that the power comes on at the desired time. With this operation the power to the audio components is turned off.**
7. **Set the TIMER mode selector ② to PLAY/REPEAT.**

NOTE:

- *When performing wake-up playback, the unit is set to REPEAT function and the tape is played repeatedly.*
- *When not performing timer recording, playback or repeat playback, TIMER mode selector should normally be set to OFF.*

DOLBY NR & HX PRO

DOLBY NR SYSTEMS

The Dolby NR systems are designed to reduce high-frequency noise (tape hiss) during playback. The level of low-volume, high-frequency sounds is increased during recording, and decreased by the same amount during playback to restore the original level. In this process the original high-frequency noise (most easily perceived by the human ear) is attenuated notably.
Dolby B-type NR reduces high-frequency tape noise widening the dynamic range. Dolby C-type NR (CT-S220) is even more powerful, applying the noise reduction effect to a wider spectrum of frequencies from the middle range.
For playback always use the same Dolby NR setting that was used for recording.

NOTE:
Avoid playing back tapes recorded using the Dolby NR systems with DOLBY NR OFF, or tapes recorded without Dolby NR Systems with DOLBY NR ON (B-type or C-type), since this does not allow faithful reproduction of the original sound.

DOLBY HX PRO Headroom Extension System (for CT-S220 U.K. model)

The Dolby HX PRO system controls the bias current during recording and always keeps it at an optimal level according to the level of the high frequency components of the music signal. It therefore provides excellent recording quality even when recording signals from digital sources which contain a large amount of high-frequency components. To guarantee optimal recording results, the HX PRO system is activated automatically when recording begins. The Dolby HX PRO system operates regardless of the setting of the Dolby NR System switch. Furthermore, since this system affects the recording quality itself, the clarity and high quality of the sound will be maintained even when the tapes are played back on another tape deck which does not contain the HX PRO Headroom Extension System.

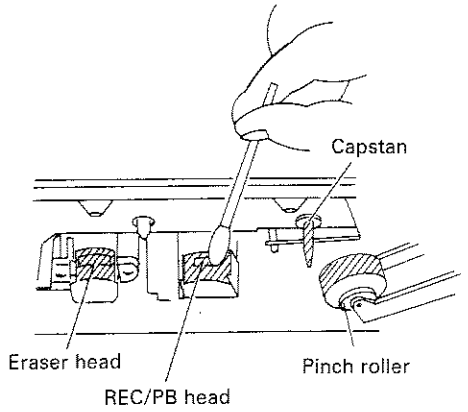
MAINTENANCE

CLEANING THE HEADS, PINCH ROLLER AND CAPSTAN

The heads, pinch roller and capstan are parts which are liable to get dirty quite easily. In particular, if the heads are dirty, the high-frequency components are not reproduced and the stereo balance is impaired, resulting in a deterioration of recording and playback. It is therefore recommended that the head section be cleaned regularly.

Cleaning Procedure

1. Press POWER switch ① to STANDBY mode.
2. Depress the eject (⏏) button ⑤ and open the cassette door.
3. Dip the cleaning swab into the cleaning fluid and use it to wipe the heads, capstan and pinch roller.



NOTE:
Do not load a tape after cleaning the head section until the cleaning fluid has completely dried (this takes two or three minutes).

DEMAGNETIZING THE HEAD

After using the cassette deck over a period of time, the head will become magnetized. The same effect is also caused by bringing a screwdriver, magnet or other magnetized object too close to the head. This causes a loss of high-frequency sounds during recording and playback, and may also produce noise. The heads should be regularly demagnetized with a head demagnetizer (eraser) which can be purchased at dealer shops.
When demagnetizing the head, be sure the cassette deck POWER switch ① is in the STANDBY position. For detailed instructions, consult the operating manual for your head demagnetizer (eraser).

CLEANING THE FRONT PANEL SECTION

When dusty or greasy, wipe the front panel and the cassette door with a soft cloth containing a small amount of ordinary liquid soap. Then, wipe dry with a cloth. Never use volatile fluids like thinners, benzene or alcohol because they will damage the panel finish.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
Cassette door does not open.	Tape mechanism was not stopped.	Press the stop (■) button.
Cassette door does not close.	Cassette tape has not been loaded properly.	Load the tape again.
No power when the POWER switch is set to ON.	• Disconnected power cord. • Power cord is connected to switched auxiliary outlet on a stereo component which turned OFF.	• Connect properly to a power outlet. • Turn on the power of that component.
Tape doesnot run.	• Tape is wound to its end. • Cassette tape not loaded properly. • Slack tape. • The deck is in the pause mode.	• Rewind tape. • Turn the tape over (play or record in opposite side). • Reload tape. • Take up slack using pencil (see page 3). • Press the pause (▮▮) button.
No sound.	• Stereo amplifier function switch is not set to TAPE. • Stereo amplifier volume control is at minimum position. • Unrecorded tape has been loaded. • Disconnected or improper stereo amplifier connection. • Dirty heads.	• Set it to TAPE. • Turn up the volume. • Use a recorded tape. • Check all connections (see page 4). • Clean the heads (see page 10).
No recording.	• Cassette tape accidental erasure prevention tab broken off. • Disconnected or improper stereo amplifier connection. • Dirty heads. • The REC LEVEL control set too low (no indication of the level meter during recording).	• Replace tape or cover tab hole with adhesive tape (see page 3). • Check all connections (see page 4). • Clean the heads (see page 10). • Adjust the REC LEVEL control as indicated on page 8 and record.
Previous sound remains when recording anew.	Dirty heads.	• Clean heads (see page 10).
Low treble sound.	• A tape which was not recorded with the Dolby NR System is being played back with the DOLBY NR switch to ON. • Dirty heads.	• Set the DOLBY NR switch to OFF. • Clean heads (see page 10).
Boosted treble.	A tape which was recorded with the Dolby NR System is being played back with the DOLBY NR switch OFF.	Set the DOLBY NR switch to ON, B or C (CT-S220 only).
Distorted sound.	• Distortion in recorded tape itself. • Recording level is too high. • Dirty heads.	• Try a different tape. • Turn down recording level and record again (see page 8). • Clean heads (see page 10).
High noise level.	• Tape itself has high noise level. • Connecting cord has been connected improperly. • Unit has been placed near TV set. • Recording level is too low. • Dirty heads. • Heads are magnetized.	• Replace cassette tape. • Inspect input and output connections; connect cords properly. • Move the deck away from the TV set or turn the TV power off. • Turn up recording level and record (see page 8). • Clean heads (see page 10). • Demagnetize them with head eraser.

Symptom	Cause	Remedy
Unstable or intermittent sound.	• Dirty heads, pinch roller and capstan.	• Clean heads, pinch roller and capstan (see page 10).
	• Cassette tape is not wound up uniformly.	• Fast forward or rewind tape to wind up tape again.
Recording or playback starts suddenly when turning power on.	The TIMER mode selector is set to PLAY/REPEAT or REC position.	Set the TIMER mode selector to OFF.
For CT-S220 only		
Cannot use the remote control system (U.K. model only)	• The control cord is not connected.	• Connect the control cord (see page 4).
CD · DECK SYNCHRO is disabled.	• The components are not connected properly. • The cassette erasure prevention tabs are broken	• Connect them properly (see page 4). • Replace the cassette with one whose tabs are intact.
The CD SYNC indicator is off during CD · DECK SYNCHRO recording.	• The tape ran out during the CD · DECK SYNCHRO mode. • After the deck entered recording standby mode, more than 1 minute elapsed before the CD player resumed playback.	• Replace the tape with a longer one. • Change the disc and press the CD SYNCHRO button again.

SPECIFICATIONS

Systems ..... 4 track, 2-channel stereo
Heads ..... "Hard permalloy" recording/playback head × 1
"Ferrite" erasing head × 1
Motor ..... DC servo capstan motor × 1
Wow and Flutter
(CT-S220) ..... No more than 0.075% (WRMS)
No more than ±0.18% (DIN)
(CT-S120) ..... No more than 0.1% (WRMS)
Fast Winding Time ..... Approximately 110 seconds (C-60 tape)
Frequency Response (±6 dB)
−20 dB recording:
TYPE I (Normal) tape ..... 30 to 16,000 Hz
TYPE II (High/CrO_2) tape ..... 30 to 16,000 Hz
TYPE IV (Metal) tape ..... 30 to 16,500 Hz
Signal-to-Noise Ratio (Dolby NR off) ..... More than 56 dB
Noise Reduction Effect
Dolby B-type NR ON ..... More than 10 dB (at 5 kHz)
Dolby C-type NR ON (CT-S220 only)
..... More than 19 dB (at 5 kHz)
Harmonic Distortion ..... No more than 1.0% (at −4 dB: 160 nwb/m)
Input (Sensitivity)
LINE (INPUT) ..... 100 mV (Input impedance 50 kΩ)
Output (Reference level)
LINE (OUTPUT) ..... 0.5 V (Output impedance 3.4 kΩ)
Headphone (CT-S220 only) ..... 0.6 mW (Load impedance 8 Ω)

Subfunctions

- Dolby B-type and C-type (CT-S220 only) noise reduction systems
- Dolby HX Pro Headroom Extension system (CT-S220 U.K. model)
- Auto tape selector
- Headphones jack (CT-S220 only)
- Music search up to ± 15 selections
- CD · DECK SYNCHRO recording (CT-S220 only)
- Automatic space recording mute
- REC BALANCE control (CT-S220)
- 7 + 1 seg LED peak meter (CT-S220)
- 5 + 1 seg LED peak meter (CT-S120)
- Timer Recording/Playback
- Repeat playback
- System remote control available (CT-S220 U.K. model)
- MS Monitor (CT-S120)

Miscellaneous

Power Requirements
Australian and U.K. model ..... a.c. 230—240 Volts~, 50/60 Hz
Multivoltage model ..... a.c. 110/120—127/220/240 V (switchable), 50/60 Hz
Power Consumption 16W
Dimensions
Multivoltage and Australian models
..... 420(W) × 120(H) × 280(D) mm
U.K. model ..... 420(W) × 125(H) × 280(D) mm
Weight (without package)
Multivoltage model ..... 3.5 kg
U.K. and Australian models ..... 3.8 kg

Accessories

Operating instructions 1
Connection cord with pin plugs 2
Remote control cord (CT-S220 U.K. model) 1

NOTE:
Specifications and design subject to possible modifications without notice owing to improvements.

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